region of the inclined plateau such that the temperature of the said alloy can be brought to the above high temperature (T2) whereby at least part of the occluded hydrogen will be made desorbable during the low-pressure plateau region in the above-mentioned two-stage plateau or the lower plateau region of the inclined plateau.

13. (Amended) The method for absorbing and releasing hydrogen according to claim 10, wherein the tissue structure of the above-mentioned suitably adjusted hydrogen storage metal alloy is of a body-centered cubic structure mono phase without any spinodal decomposition phase or has a body-centered cubic structure together with only a minimum spinodal decomposition phase which is unavoidably produced.

16. (Amended) The hydrogen fuel battery according to claim 14, wherein the above-mentioned temperature controlling means is arranged so as to enable the heat discharged from the above-mentioned fuel battery cell or the exhaust gas discharged from the said fuel battery cell to be utilized for the above-mentioned heating.

Please add new claims 17-22 reading as follows:

--17. The method for absorbing and releasing hydrogen according to claim 8, wherein the composition ratio of the constituent metals for the alloy is adjusted to an appropriate range in order to reduce the stability of the hydrogen occluded in the alloy during the low-pressure plateau region or the lower plateau region of the inclined plateau such that the temperature of the said alloy can be brought to the above high temperature (T2) whereby at least part of the occluded hydrogen will be made desorbable during the low-pressure plateau region in the above-mentioned two-stage plateau or the lower plateau region of the inclined plateau.

HAYES, SOLOWAY,
HENNESSEY, GROSSMAN
& HAGE, P.C.
P.O. BOX 3042
130 W. CUSHING ST.
TUCSON, AZ 85702-3042

TEL. 520.882.7623
FAX. 520.882.7643

18. The method for absorbing and releasing hydrogen according to claim 17, wherein the hydrogen storage metal alloy is a V alloy not only having a suitably adjusted composition to reduce the stability of the above occluded hydrogen but also containing 0 to 95 at% of at least one or more members selected from the group consisting of Nb, Ta, W, Mo, Ti, Cr, Mn, Fe, Al, B, Co, Cu, Ge, Ni and Si.

19. The method for absorbing and releasing hydrogen according to claim 18, wherein the hydrogen storage metal alloy is an alloy having not only a suitably adjusted composition to reduce the stability of the occluded hydrogen but also a fundamental composition of the formula:

$$V_a Ti_{(41 - 0.4a+b)} Cr_{(59 - 0.6a-b)}$$

wherein $0 \leq a \leq 70$ at% and $-10 \leq b \leq 10$ at%.

20. The method for absorbing and releasing hydrogen according to claim 18, wherein the hydrogen storage metal alloy is an alloy having not only a suitably adjusted composition to reduce the stability of the occluded hydrogen but also a fundamental composition of the formula:

$$V_{(a+b)} M2_d Ti_{(41 - 0.4a + b)} Mc$$

wherein $0 \leq a \leq 70$ at%, $-10 \leq b \leq 10 + c$, $0 \leq c$, $0 \leq d \leq a$, M is at least one or more members selected from the group consisting of Nb, Mo, Ta, W, Mn, Fe, Al, B, C, Co, Cu, Ge, Ln (various lanthanoid metals), N, Ni, P and Si, and M2 is at least one or more members selected from the group consisting of Mo, Nb, Ta, W, Fe and Al.

21. The method for absorbing and releasing hydrogen according to claim 18, wherein the tissue structure of the above-mentioned suitably adjusted hydrogen storage

HAYES, SOLOWAY, HENNESSEY, GROSSMAN & HAGE, P.C.
P.O. BOX 3042
130 W. CUSHING ST.
TUCSON, AZ 85702-3042
TEL. 520.882.7623
FAX. 520.882.7643